

PATENT ABSTRACTS OF JAPAN

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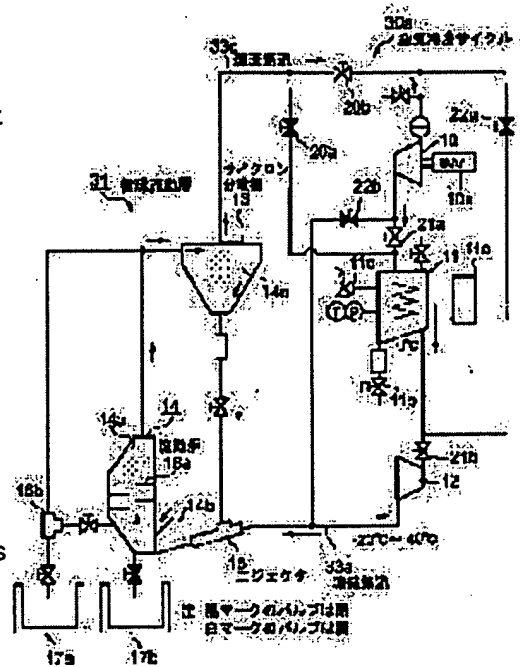
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(54) METHOD AND APPARATUS FOR FREEZING/THAWING/POWDERING/ DRYING

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method and an apparatus for freezing/thawing/powdering/ drying, enabling not only uniform and highly efficient removal of moisture but also pulverization at the time of the freezing and thawing of a charged wet member, bringing about the structural destruction of the charged member by the repetition of freezing and thawing to enable powdering and drying.

SOLUTION: The freezing/thawing/powdering/drying apparatus is constituted of an air freezing cycle 3a and a circulated fluidized bed 31 and a high speed air flow of low temperature freezing/high temperature thawing enabling heat transfer due to direct contact is formed in an air freezing cycle 30a using air as a cooling medium to be introduced into a circulating fluidized bed 31 having a circulating fluidizing medium, and the charged wet member is placed in a fluidized floating state and, through the repeated heat treatment of freezing/ thawing, the dehydration, pulverization and powder drying of the wet member are performed.



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